

9 ~~that combines the series of laser pulses from the two or more lasers, each for generating~~
10 ~~laser pulses to provide the series of laser pulses and sufficient to generate ablation when~~
11 the laser source is in an ablation mode.

1 2. (Previously Presented) The medical laser delivery apparatus as claimed in claim 1
2 wherein the series of laser pulses are focussed to the target tissue through an articulated
3 arm feature.

1 3. (Previously Presented) The medical laser delivery apparatus as claimed in claim 2
2 wherein the articulated arm feature comprises one or more refocussing optics for
3 refocussing the laser pulses as they travel through the articulated arm feature.

1 4. (Previously Presented) The medical laser delivery apparatus as claimed in claim 3
2 wherein the laser delivery system further comprises a scanning handpiece at an end of the
3 articulated arm feature for guiding the series of one or more non-ablative laser pulses to
4 the area of tissue being treated.

1 6. (Original) The medical laser delivery apparatus as claimed in claim 1 further comprising
2 a graphical user interface through which a user selects the coagulation depth and/or
3 fluence.

1 7. (Original) The medical laser delivery apparatus as claimed in claim 6 wherein the laser
2 source also has an ablation mode wherein it generates laser pulses of a strength and
3 duration to ablate tissue at the area of tissue being treated to an ablation depth and the
4 user selects the ablation depth through the graphical user interface.

1 8. (Previously Presented) The medical laser delivery apparatus as claimed in claim 1
2 wherein the apparatus is configured to generate laser pulses with short penetration depths.

1 9. (Previously Presented) The medical laser delivery apparatus as claimed in claim 8
2 wherein the two or more lasers are erbium lasers.

1 10. (Previously Presented) The medical laser delivery apparatus as claimed in claim 9
2 wherein the erbium lasers are Er:YAG lasers.

1 11. (Currently Amended) A medical laser comprising:

- 2 a. a laser source having two or more pulsed lasers for generating pulses of laser
3 light, wherein ~~the~~ a series of the pulses of laser light are combined from the laser
4 source in an alternating fashion for generating a single laser output having a
5 predetermined absorption, wherein the predetermined absorption forms a
6 predetermined coagulation depth; and
7 b. a laser control system coupled to the laser source for controlling the laser source
8 to deliver the laser output to a target area.

1 *El. cont.* 12. (Original) The medical laser as claimed in claim 11 further comprising a graphical user
2 interface through which a user selects a depth of the coagulation region formed by the
3 coagulative laser pulses.

1 13. (Original) The medical laser as claimed in claim 12 further comprising a laser delivery
2 system coupled to the laser source for delivering the laser beam from the laser source to
3 an area of tissue to be treated.

1 14. (Original) The medical laser as claimed in claim 13 wherein the laser delivery system
2 comprises an articulated arm and one or more refocussing optics for refocussing the laser
3 beam as it travels through the arm.

1 Claims 15-16 (Canceled).

1 17. (Currently Amended) A medical laser delivery apparatus for treating an area of tissue
2 comprising:

- 3 a. a laser source having a first laser and a second laser each of which generate laser
4 pulses having a wavelength, the laser source being configured to ~~alternate between~~
5 combine laser pulses of the first laser and the second laser to form a single laser
6 output by a combining apparatus for ~~generating~~ delivering a series of laser pulses

each having a strength and a duration to ablate or coagulate the area of tissue being treated;

- b. a laser delivery system coupled to the laser source for delivering the laser pulses from the laser source to the area of tissue being treated; and
- c. a control system coupled to the laser source for controlling generation of the laser pulses from the laser source, wherein the laser source operates in both an ablation mode and a coagulation mode such that when in the ablation mode, the strength and duration of the laser pulses are sufficient to ablate tissue at the area of tissue being treated to a controllable ablation depth and when in the coagulation mode, the strength and duration of the laser pulses are sufficient to generate a coagulation region having a controllable coagulation depth within the tissue remaining at the area of tissue being treated without ablating any tissue.

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1 18. (Original) The medical laser delivery apparatus as claimed in claim 17 further comprising
2 a graphical user interface through which a user selects the controllable ablation depth and
3 the controllable coagulation depth.

1 19. (Original) The medical laser delivery apparatus as claimed in claim 18 wherein the laser
2 delivery system comprises an articulated arm and one or more refocussing optics for
3 refocussing the laser beam as its travels through the articulated arm.

1 20. (Original) The medical laser delivery apparatus as claimed in claim 19 wherein the laser
2 delivery system further comprises a scanning handpiece at an end of the arm for
3 providing the laser pulses to the area of tissue being treated.

1 21. (Original) The medical laser delivery apparatus as claimed in claim 20 wherein the
2 refocussing optics are simple convex lenses.

1 22. (Original) The medical laser delivery apparatus as claimed in claim 21 wherein the laser
2 source includes a laser having a short penetration depth.

1 23. (Previously Presented) The medical laser delivery apparatus as claimed in claim 22,
2 wherein the first and second lasers are erbium lasers.

- 1 24. (Previously Presented) The medical laser delivery apparatus as claimed in claim 23
2 wherein the erbium lasers are Er:YAG lasers.

1 Claims 25-40 (Canceled)

- 1 41. (Currently Amended) A dual mode medical laser system, for sequentially ablating and
2 coagulating a region of target tissue with ablation laser pulses followed by coagulation
3 laser pulses, the dual mode medical laser system comprising:

- 4 a. a laser source comprising a first laser and a second laser for generating a first set
5 of laser pulses and a second set of laser pulses;
6 b. means to ~~alternate between~~ combine pulses of the first set of laser pulses and the
7 second set of laser pulses to provide a single laser output, the single laser output
8 being capable of coagulating tissue with the system in a coagulation mode and
9 ablating tissue with the system in an ablating mode; and
10 c. means to direct the single laser output to the region of the target tissue.

- 1 42. (Original) The dual mode medical laser system of claims 41 wherein the first laser and
2 the second laser are Er:YAG lasers.

- 1 43. (Currently Amended) The dual mode medical laser system of claim 41 wherein the means
2 to ~~alternate between~~ combine pulses of the first set of laser pulses and the second set of
3 laser pulses ~~the first laser beam and the second laser beam~~ is a galvanometer.

- 1 44. (Original) The dual mode medical laser system of claim 41 further comprising a user
2 interface, wherein a user selects an ablation depth and a coagulation depth and wherein a
3 series of the ablation laser pluses with a fluence corresponding to the selected ablation
4 depth are generated followed by a series of the coagulation laser pulses with a fluence
5 corresponding to the selected coagulation depth.

- 1 45. (Original) The dual mode medical laser system of claim 44 wherein the user interface
2 comprises a mode selector for selecting between manual mode and scan mode, wherein
3 the user further selects a scan size and a laser pulse pattern with the scan mode selected.

1 46. (Original) The dual mode medical laser system of claim 45 wherein the user interface is a
2 graphical user interface for displaying the selected laser pulse pattern.

1 47. (Original) The dual mode medical laser system of claim 41 wherein the ablation laser
2 pulses have a duration of approximately 500 microseconds and a fluence of
3 approximately 2 Joules/cm².

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1 48. (currently amended) The dual mode medical laser system of claim 41 wherein when the
2 system is in the coagulation mode, the coagulation laser pulses of the first set of laser
3 pulses and the second set of laser pulses each have a duration of approximately 150
4 microseconds and a combined fluence of approximately 200 millijoules/cm².

1 49. (Original) The dual mode medical laser system of claim 41 wherein the means to direct
2 the single laser output to the region of the target tissue comprises an articulated arm
3 feature with a plurality of refocussing lenses for guiding and focussing the single laser
4 output through the articulated arm feature.
